CLAIMS

What is claimed is:

1. A method of obtaining data useful for one or more network applications, the method comprising performing the following steps:

obtaining a position estimate for a subscriber station responsive to a triggering event;

forming a record associating the position estimate for the subscriber station with either or both an event identifier and data measured or obtained responsive to the event; and

storing or transmitting the record.

2. The method of claim 1 wherein the subscriber station is operating within a wireless communications system.

3. The method of claim 1 wherein the event is observed by the subscriber station.

4. The method of claim 2 wherein the event is observed by an entity in the system other than the subscriber station.

5. The method of claim 2 wherein the event is a network event.

6. The method of claim 2 wherein the network event is an actual or near dropped call condition.

7. The method of claim 2 wherein the network event is the subscriber station entering the coverage area of the system or a system entity.

8. The method of claim 2 wherein the network event is the subscriber station exiting the coverage area of the system or a system entity.

9. The method of claim 2 wherein the network event is the expiration of a timer while the subscriber station is outside the coverage area of a system or a system entity.

10. The method of claim 2 wherein the network event is a failed handoff condition.

11. The method of claim 2 wherein the network event is a handoff or near handoff condition.

12. The method of claim 11 wherein the handoff condition is a hard or soft handoff condition.

13. The method of claim 11 wherein the near handoff condition is a hard or soft handoff condition.

14. The method of claim 2 wherein the network event is a change in band condition.

15. The method of claim 2 wherein the network event is passage of the subscriber station between the coverage areas of two wireless communications systems or system entities.

16. The method of claim 2 wherein the network event is passage of the subscriber station between the coverage areas of a donor base station and a repeater.

17. The method of claim 2 wherein the network event is detection at the subscriber station of an unexpected or unexpectedly strong pilot.

18. The method of claim 2 wherein the network event is detection at the subscriber station of an unexpected base station.

19. The method of claim 2 wherein the network event is detection at the subscriber station of a pilot which is absent from the subscriber station's neighbor list.

20. The method of claim 1 wherein the event is expiration of a timer.

21. The method of claim 1 wherein the event is a user event.

22. The method of claim 21 wherein the event is initiation of a 911 call.

23. The method of claim 21 wherein the event is a request for position-dependent services in a Web-enabled subscriber station.

24. The method of claim 1 wherein the record associates the position estimate with one or more measurements of pilot strength or phase.

25. The method of claim 24 wherein at least one of the pilots is associated with a traffic channel existing between the subscriber station and a base station.

26. The method of claim 25 wherein the traffic channel is a forward traffic channel.

27. The method of claim 25 wherein the traffic channel is a reverse traffic channel.

28. The method of claim 1 wherein the position estimate is determined by the subscriber station.

29. The method of claim 2 wherein the position estimate is determined by an entity in the system other than the subscriber station.

30. The method of claim 29 wherein the other entity is a position determination entity.

31. The method of claim 1 wherein the record is stored locally at the subscriber station.

32. The method of claim 2 wherein the record is transmitted and stored at a remote location in the system.

33. The method of claim 32 wherein the record is stored in a database holding like records obtained from other subscriber stations serviced by the system.

34. A memory storing a sequence of software instructions embodying the method of claim 1.

35. A system comprising a processor, and the memory of claim 34, wherein the processor is configured to access and execute the software instructions stored in the memory.

36. The system of claim 35 embodied by or incorporated within a subscriber station.

37. A wireless communications system for obtaining data useful for one or more network applications comprising:

one or more network entities each configured to (1) obtain or have obtained a position estimate for a subscriber station responsive to a triggering event, (2) form or have formed a record associating the position estimate for the subscriber station with either or both an identifier of the triggering event and data measured or obtained responsive to the triggering event, and (3) store or having stored the record in a database.

38. The system of claim 37 wherein the one or more triggering events comprise a failed handoff condition.

39. The system of claim 38 further comprising a memory holding data representing a map of failed handoff areas derived from the database, and for each area, association data associating the area with one or more base stations.

40. The system of claim 39 comprising one or more subscriber stations configured to access data derived from the database and, upon detecting roaming into a failed handoff area using this data, forcing or having forced one or more base stations associated with the failed handoff area onto one or more lists applicable to the subscriber station for supporting handoffs.

41. The system of claim 39 further comprising one or more subscriber stations configured to access the data derived from the database and, upon detecting roaming into a failed handoff area using this data, adjusting or having adjusted one or more thresholds applicable to the subscriber station for supporting handoffs.

42. The system of claim 39 further comprising one or more subscriber stations configured to access the data derived from the database and, upon detecting roaming into a failed handoff area using this data, adjusting or having adjusted one or more search times applicable to the subscriber station for supporting handoffs.

43. The system of claim 37 wherein the one or more triggering events comprises a subscriber station roaming into, out of, or within a coverage gap.

44. The system of claim 43 further comprising a memory holding data derived from the database comprising a map of coverage gaps.

45. The system of claim 43 further comprising a memory holding data derived from the database and representing one or more gradient maps.

46. A method of obtaining data useful for one or more network applications comprising performing the following steps by or for each of a plurality of subscriber stations operating within a wireless communications system:

obtaining a position estimate for a subscriber station responsive to one or more triggering events;

forming a record associating the position estimate for the subscriber station with either or both an identifier of the triggering event and data measured or obtained responsive to the triggering event; and

storing or having stored the record in a database.

47. The method of claim 46 wherein the one or more triggering events comprise failed handoff conditions.

48. The method of claim 47 further comprising deriving data from the database comprising a map of failed handoff areas, and association data associating with each area one or more base stations.

49. The method of claim 48 further comprising, upon a subscriber station roaming into a failed handoff area, forcing or having forced a base station associated with the failed handoff area onto one or more of lists applicable to the subscriber station for supporting handoffs.

50. The method of claim 48 further comprising, upon a subscriber station roaming into a failed handoff area, adjusting or having adjusted one or more thresholds applicable to the subscriber station for supporting handoffs.

51. The method of claim 48 further comprising, upon a subscriber station roaming into a failed handoff area, adjusting or having adjusted one or more search times applicable to the subscriber station for supporting handoffs.

52. The method of claim 46 wherein the one or more triggering events comprises roaming into, out of, or within coverage gaps.

53. The method of claim 52 further comprising deriving data from the database representing a map of coverage gaps.

54. The method of claim 52 further comprising deriving data from the database representing one or more gradient maps.

55. The method of claim 53 further comprising using the data for a network planning or optimization application.

56. The method of claim 54 further comprising using the data for a network planning or optimization application, or for validating an RF propagation model.

57. A method of obtaining data useful for one or more network applications comprising performing the following steps:

a step for forming records associating, for each of a plurality of subscriber stations, a position estimate for the subscriber station obtained responsive to a triggering event with either or both an identifier of the triggering event and data measured or obtained responsive to the event;

a step for storing the records in a database; and

a step for performing one or more network planning, optimization, validation or operations applications using data derived from the database.

58. The method of claim 33 wherein base station almanac information is related to said database.